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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,525	06/03/2005	Donald P Bynum	47134.0106	4962

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09/15/2009

EXAMINER
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NGUYEN, JIMMY H

ART UNIT	PAPER NUMBER
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2629

MAIL DATE	DELIVERY MODE
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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/537,525	<b>Applicant(s)</b> BYNUM ET AL.	
	<b>Examiner</b> JIMMY H. NGUYEN	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-146 is/are pending in the application.
- 4a) Of the above claim(s) 1-123 and 141-146 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 124-140 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/3/05, 12/8/08</u> .   | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. This Office Action is made in response to applicant's RESPONSE TO ELECTION REQUIREMENT AND AMENDMENT, filed on 06/26/2009.
2. Applicant's election without traverse of Group VI (claims 124-140) in the reply filed on 06/26/2009 is acknowledged.
3. Claims 1-123 and 141-146 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 6/26/2009.

#### *Claim Rejections - 35 USC § 101*

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 124-140 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 124-140 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent<sup>1</sup> and recent Federal Circuit decisions<sup>2</sup> indicate that a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claims recite a series of steps or acts to be performed, the claims neither transform underlying subject matter nor

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<sup>1</sup> *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

<sup>2</sup> *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

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positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. Note that these claims merely calculate values and the references to “a sensor” and “a light source” are merely insignificant extra-solution activity. In order for a process to be "tied" to another statutory category, the structure of another statutory category should be positively recited in a step or steps significant to the basic inventive concept, and NOT just in association with statements of intended use or purpose, insignificant pre or post solution activity, or implicitly.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 124-127 and 130-140 are rejected under 35 U.S.C. 102(e) as being anticipated by Norskog et al. (US 6,795,056 B2), hereinafter Norskog.

As to claim 124, Norskog discloses a method (see Fig. 4) of processing cursor control data for a cursor control device (a motion detection device 1; see Fig. 1 or 2) having a light source (2; Fig. 1, 2) and a sensor (the “claimed” sensor corresponding elements 148, 150, 154, 156, 157, 158, 164, all shown in Fig. 2), the method (see Fig. 4 and the corresponding description from col. 8, line 30 to col. 9, line 18) comprising the steps of:

performing a confidence calculation for determining a tracking confidence value (a value of  $\Delta X$  in step 406 of Fig. 4; col. 8, lines 33-35 and lines 58-59);

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performing a projection calculation for determining a projected tracking value (update current accumulated  $\Delta X$  in step 408; see col. 8, lines 35-38 and lines 59-61), the projection calculation involving a historical tracking value (a reduce current accumulated  $\Delta X$ ; see step 412; col. 8, lines 43-46 and col. 8, line 62 to col. 9, line 7); and

performing an enhancement calculation for determining an enhanced tracking value (the current accumulated  $\Delta X$  in step 410, which is provided to either step 412 or step 414; see col. 8, lines 51-53 and col. 9, lines 11-14), the enhancement calculation involving the tracking confidence value, the projected tracking value, and a measured tracking value (a measured tracking value corresponding to the captured digital image data provided from the A/D 158 to the correlator 160 in step 404; see col. 8, lines 30-33 and lines 56-58), the measured tracking value being representative of motion sensed by the sensor (see step 402; col. 8, lines 31--32). Further, see Fig. 4 and the operation described at page 8, line 55 to page 9, line 18.

Accordingly, all limitations of this claim are read in the Norskog reference.

As to claim 125, Norskog discloses the sensor (148, 150, 154, 156, 157, 158, 164) providing a pair of measured tracking values ( $\Delta X$ ,  $\Delta Y$ ) representative of the sensed motion (Fig. 1; col. 7, lines 32-35; col. 8, lines 27-29), wherein the step of performing a projection calculation is for determining a pair of projected tracking values using respective historical tracking values, and wherein the step of performing an enhancement calculation is for determining a pair of enhanced tracking values, each of the pair of enhanced tracking values being calculated using the tracking confidence value, a respective one of the pair of historical tracking values, and a

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respective one of the pair of measured tracking values (see Fig. 4; col. 7, lines 32-35; col. 8, line 27 to col. 9, line 14; and the discussion in the rejection to claim 124 above).

As to claim 126, Norskog discloses that wherein each of the pair of measured tracking values, projected tracking values, historical tracking values, and enhanced tracking values is representative of motion in a respective one of a pair of orthogonal directions (X and Y directions; Fig. 1; col. 7, lines 32-35).

As to claim 127, Norskog discloses that wherein the step of performing a confidence calculation for determining a tracking confidence value involves an illumination value representative of an intensity of light sensed by the sensor (see at least col. 5, lines 55-61), wherein the method further comprises the step of performing an illumination calculation for determining said illumination value, the illumination calculation involving a shutter value (a value of a shutter signal 308; Fig. 3; col. 7, line 50) received from the sensor for a subject sensor scan and a brightness value indicative of an amount of light emitted from the light source during the subject sensor scan (see Fig. 2; at least at col. 7, lines 49-63).

As to claim 130, Norskog discloses that wherein the measured tracking value is representative of motion sensed by the sensor during a subject sensor scan, and the historical tracking value is related to at least one sensor scan prior to the subject sensor scan (Fig. 4; col. 8, line 55 to col. 9, line 14 and the discussion in the above rejection to claim 124).

As to claim 131, Norskog discloses that wherein the historical tracking value is calculated using the enhanced tracking value for said at least one sensor scan prior to the subject sensor scan (see steps 410 and 412 of Fig. 4; col. 8, line 61 to col. 9, line 8).

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As to claim 132, Norskog discloses that wherein the illumination value is representative of an intensity of light sensed by the sensor during the subject sensor scan (see at least col. 5, line 55 to col. 6, line 34).

As to claim 133, Norskog discloses the step of providing the enhanced tracking value to a client device (an electronic device; col. 3, line 15) for control of cursor motion (see step 414 of Fig. 4; col. 3, lines 14-16).

As to claim 134, Norskog discloses that the step of storing the enhanced tracking value (see at least col. 8, line 35-38).

As to claim 135, Norskog discloses that wherein the steps of performing a confidence calculation, performing a projection calculation, and performing an enhancement calculation are repeated using the stored enhanced tracking value as a basis for determining the historical tracking value (Fig. 4; col. 8, line 55 to col. 9, line 8).

As to claim 136, Norskog discloses that the step of controlling the intensity of light emitted by the light source (col. 5, lines 55-56; col. 7 lines 49-63).

As to claim 137, Norskog discloses that wherein the step of controlling the intensity of light includes controlling the intensity of light in order to optimize the dynamic range of the sensor (col. 4, lines 45-47 and lines 54-56; col. 6, line 60 to col. 7, line 4; col. 7, lines 49-63).

As to claim 138, Norskog discloses that wherein the step of controlling the intensity of light includes controlling the intensity of light based on a shutter value signal (308) received from the sensor (Fig. 2; col. 49-63).

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As to claim 139, Norskog discloses that wherein the step of controlling the intensity of light includes controlling the intensity of light based on a contrast signal received from the sensor (col. 6, line 60 to col. 7, line 4 and col. 7, lines 63-65).

As to claim 140, Norskog discloses that wherein the illumination value is based on the information received from the sensor and an intensity at which the light source is controlled during the step of controlling the intensity of light (Fig. 2; col. 6, line 60 to col. 7, line 4 and col. 7, lines 49-65).

### ***Conclusion***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jimmy H. Nguyen whose telephone number is 571-272-7675.

The examiner can normally be reached on Monday - Friday, 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached at 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jimmy H Nguyen/

Primary Examiner, Art Unit 2629